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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Mytych, *et al.*

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Group Art Unit: 1648

For: METHODS AND REAGENTS FOR THE
DETECTION OF ANTIBODIES TO ADENOVIRUS

Confirmation No.: 9578

MARKED-UP AMENDMENT UNDER 37 C.F.R. §1.121

Honorable Commissioner of
Patents & Trademarks
Washington, DC 20231

Sir:

The present Marked-Up Amendment shows all changes made to the claims in the enclosed Preliminary Amendment.

1 (Amended). A method for detecting an antibody [antibodies] capable of binding to adenovirus comprising the steps of:

- a) [immobilization of] immobilizing a peptide comprising an amino acid sequence selected from SEQ ID NOs: 1-7 and 9-15 [capable of being bound by an anti-adenovirus antibody directly] onto a flowcell of a sensorchip in a biosensor;
- b) [obtaining a serum sample from a patient to be tested and contacting said serum] contacting a sample to be tested for the presence of the antibody with the immobilized peptide[,]; and

- a) immobilizing a peptide comprising an amino acid sequence selected from SEQ ID NOs: 1-7 and 9-15 onto a flowcell of a sensorchip in a biosensor;
- b) contacting a sample to be tested for the presence of the antibody with the immobilized peptide; and
- c) detecting binding of the antibody to the immobilized peptide by detecting surface plasmon resonance in the biosensor.

2 (Amended). The method of Claim 1 wherein the adenovirus is adenovirus 5.

3 (Amended). The method of Claim 1, wherein said sample is human serum.

8 (Amended). The method of Claim 1 wherein a plurality of peptides comprising amino acid sequences selected from SEQ ID NOs: 1-7 and 9-15 are directly immobilized, each on its own separate flowcell.

16 (Amended). A method for detecting an antibody capable of binding to adenovirus comprising the steps of contacting a sample to be tested for the presence of the antibody with a peptide comprising an amino acid sequence selected from SEQ ID NOs: 1-7 and 9-15 and detecting binding between the peptide and the antibody.

18 (Amended). The method of Claim 16 wherein the sample is contacted with a plurality of peptides comprising an amino acid sequence selected from SEQ ID NOs: 1-7 and 9-15.

21(New). The method of claim 16 wherein the sample is human serum.

22(New). The method of claim 16 wherein the adenovirus is adenovirus 5.

23 (New). A method for detecting an antibody capable of binding to adenovirus comprising the steps of:

- a) immobilizing a peptide comprising an amino acid sequence selected from SEQ ID NOs: 1-7 and 9-15;

- b) contacting the peptide with a sample to be tested for the presence of the antibody;
- c) labeling antibody which binds to the peptide; and
- d) detecting the labeled antibody.

24 (New). The method of claim 23 wherein the labeled antibody in step (d) is detected by:

- a) labeling said antibody with a biotin-labeled Protein A/G conjugate;
- b) contacting the biotin-labeled Protein A/G conjugate with horse radish peroxidase conjugated streptavidin;
- c) contacting the horse radish peroxidase conjugated streptavidin with 3,3',5,5' tetramethyl benzidine (TMB); and
- d) detecting fluorescence.

25 (New). The method of Claim 23 wherein the sample is contacted with a plurality of peptides comprising an amino acid sequence selected from SEQ ID NOs: 1-7 and 9-15.

26 (New). The method of claim 23 wherein the sample is human serum.

27 (New). The method of claim 23 wherein the adenovirus is adenovirus 5.

REMARKS

Entry of the foregoing Amendment is requested. As of entry of the Amendment, claims 1-3, 8, 16, 18 and 21-27 will be pending. Each amended and new claim has written support in the specification; accordingly, no new matter has been added to the Application.

Written support for amended claim 1 appears in the specification, for example, at page 6, lines 8-25; at page 7, lines 6-30; at page 3, lines 24-25 and at claims 1-5, as filed.

Written support for amended claims 16 and 18 and new claims 21 and 22 appears in the specification, for example, at page 3, lines 1-8; at page 3, lines 12-20; at page 3, lines 24-25; at page 4, line 33 to page 5, line 3; at page 6, lines 8-25; at page 7, lines 6-30 and at claim 16, as filed.

Written support for new claims 23-27 appears in the specification, for example, at Example 1.9 (page 15, lines 8-28); page 5, lines 6-16; page 3, lines 24-25; and at page 4, line 30 to page 5, line 3.

c) [measuring] detecting binding of [antibodies] the antibody to the immobilized peptide by detecting surface plasmon resonance in the biosensor [means of response units from said biosensor].

2 (Amended). The method of Claim 1[,], wherein the adenovirus is [said peptide is capable of being bound by antibodies specific to] adenovirus 5.

3 (Amended). The method of Claim [2] 1, wherein said [serum] sample is human serum.

8 (Amended). The method of Claim 1 [further comprising] wherein a plurality of peptides comprising amino acid sequences selected from SEQ ID NOs: 1-7 and 9-15 [capable of being bound by an anti-adenovirus antibody] are directly immobilized, each on its own separate flowcell.

16 (Amended). A method for detecting an antibody [antibodies] capable of binding to adenovirus [,] comprising the steps of contacting a sample to be tested for the presence of the antibody with a peptide comprising an amino acid sequence selected from [the group consisting] SEQ ID NOs: 1-7 and 9-15 and detecting binding between the peptide and the antibody [SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4, SEQ ID NO: 5, SEQ ID NO: 6, and SEQ ID NO: 7 or a peptides having substantial sequence identity thereto].

18 (Amended). The method of Claim [17,] 16 [further comprising] wherein the sample is contacted with a plurality of peptides comprising an amino acid sequence selected from SEQ ID NOs: 1-7 and 9-15 [capable of being bound by an anti-adenovirus antibody].